



WMBD

- Decreasing Our Dependency On Foreign Oil Supplies
- Creating Jobs
- Decreasing Greenhouse Gasses By Up To 80%
- Increased customer loyalty
- Increased profits



What is Biodiesel?

- Biodiesel refers to a vegetable oil or animal fat-based **diesel fuel** consisting of long-chain **alkyl** (**methyl**, **propyl** or **ethyl**) **esters**. Biodiesel is typically made by chemically reacting **lipids** (**vegetable oil**, animal fat) with an **alcohol**.
- Biodiesel is meant to be used in standard diesel engines and is thus distinct from the **vegetable and waste oils** used to fuel *converted* diesel engines. Biodiesel can be used alone, or blended with petrodiesel.

Cradle To The Grave

- Crop is grown
- Oil is used in fryer
- Used cooking oil is recycled
- Converted into Biodiesel
- Used to fuel our country

Receiving Used Cooking Oil



What happens to the oil once it gets to the plant?

- Sweco Screen-Filters particulates out of the oil to 250 microns



UCO Centrifuge

- Separates water from oil



CCER

(Counter Current Reactor)

- Converts free fatty acids into Biodiesel using sulfuric acid and methanol



Transesterification Reaction

- Takes Methanol and Sodium Methylate and separates the Glycerin from the Crude Biodiesel



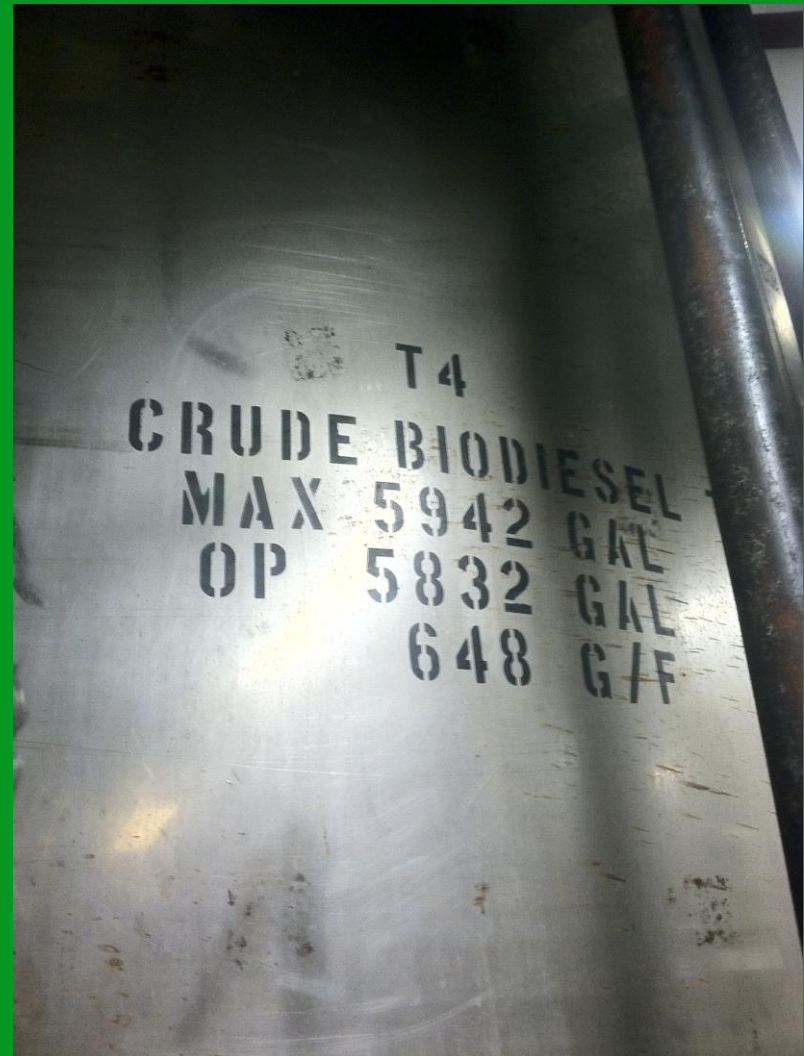
Biodiesel Centrifuge

- Remove Methanol, Water, and Glycerin
- Crude Biodiesel remaining



Flash Evaporation

- 2 Stage Flash
- Removes excess Methanol and Water



Ion Exchange

- Polishes and finishes Biodiesel



Finished Biodiesel



To Your Home/Auto



Blends Of Biodiesel

- B5
- B20
- 100% Biodiesel

Methanol Distillation Column

- Separates the water and methanol
- Recover roughly 95% of Methanol





Lab



